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TO : The Files

DATE: 30 July 1956

FROM :

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SUBJECT:

(Visit to [] Contract RD-107, T.O. 4)

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1. A meeting was held on 24 July at []

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Present at the meeting were:

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2. [] was informed that mid-frequency of ^{the} antenna matrix should be 25.26 kc.

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3. [] stated that by trying various windings on three different materials that happened to be on hand, an antenna Q of 120 had been achieved. He further stated that some investigation had been made of the mutual coupling between the various antennas of the matrix and it had been found that for a 2 inch spacing between antennas there was coupling coefficient of .05. [] has been working on the problem of adding the antenna outputs and has already achieved a transistor isolation stage design with a noise figure of 6 db. [] is planning on giving us a single output rather than 20 separate outputs.

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4. The development plan of the complete matrix is that all component antennas will be developed together rather than one at a time; thus one specific antenna design will not be finished appreciably ahead of the others.

5. The following relations and definitions may be used in future correspondence:

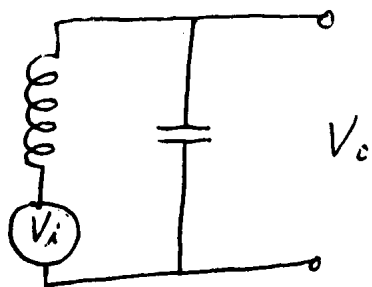
Sensitivity is power output per unit field strength.

Effective permeability at low signal strength is equal to initial permeability.

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|------------|-----|----------|------------|-----------|---------|
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Antenna Equivalent ckt.

$$V_o = Q V_i$$

$$V_i (f) = \lambda, \mu_{\text{ferrite}}, \text{Coil dimensions}$$

where μ_{ferrite} is effective permeability of the ferrite and a function of Toroidal Permeability and length/diam. ratio.

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